AMENDMENT TO CLAIMS 39 AND 41

Claims 39 and 41 have been amended only to improve the form of the claims. Accordingly, the amendment to claim 39 and 41 do not affect the scope of the claim within the meaning of *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd Slip Op. 00-1543 (May 28, 2002).*

REJECTION OF CLAIMS 37-39 UNDER 35 U.S.C. §102(e)

Claims 37-39 were rejected under 35 U.S.C. §102(e) as being anticipated by Japanese Patent Application Laid Open No. 5-135154 (hereafter JP 5-135154).

The present invention as recited in claim 37 includes the distinguishing features of "a translucent polyhedron containing therein a whole or a part of the three-dimensional shape model is also displayed, wherein at least a depth of a control point on the three-dimensional shape model is controlled in accordance with a position of the translucent polyhedron."

According to JP 5-135154, in a display 402, a graphical data and a 3D window are displayed. However JP 5-135154 is silent about the 3D window being translucent.

Further, assuming arguendo that that the 3D windows in JP 5-135154 is translucent, the 3D windows in JP 5-135154 are still different from a translucent polyhedron as the translucent polyhedron is a guide polyhedron (i.e., "wherein at least a depth of a control point on the three-dimensional shape model is controlled in accordance with a position of the translucent polyhedron" (as recited in claim 37)). For example, the 3D windows in JP 5-135154 is silent with respect to at least a depth of a control point on the three-dimensional shape model is controlled in accordance with a position of the translucent polyhedron" (see claim 37.)

Accordingly, claim 37 patentably distinguishes over the cited art and should be allowable for at least the above-mentioned reasons. Further, claim 39, which depends directly from claim 37, should also be allowable for at least the same reasons as claim 37, as well as for the additional features recited therein.

Claim 39 recites additional features not disclosed or suggested by JP 5-135154, namely, "a color of said polyhedron is determined based on a background color of the two-dimensional plane and on a color of the three-dimensional shape model." In particular, JP 5-135154 does not suggest anything related to automatic selection of a color of the polyhedron.

Thus, claim 39 independent of claim 37 patentably distinguishes over the cited art and should be allowable.

Reconsideration of this rejection is respectfully requested.

NEW CLAIMS 46-55

The present invention as recited in claim 46 includes the distinguishing features of "a polyhedron ... having a center which is the center of gravity of the three-dimensional shape model contained therein." A guide polyhedron to be displayed with, for example, a radius of the guide polyhedron determined to be the longest distance from the center of the guide polyhedron to each vertex of the three-dimensional shape model is provided, thereby, enabling rotation and/or scaling of the three-dimensional shape model based on the center of gravity of the three-dimensional shape model by using the guide polyhedron. (See the present specification at page 57, lines 6-12 and page 58, lines 15-24.)

Japanese Patent Application Laid Open No. 5-135154 does not disclose or suggest the above-mentioned distinguishing features of "a polyhedron ... having a center which is the center of gravity of the three-dimensional shape model therein." This is because nothing in the Japanese Patent Application Laid Open No. 5-135154 is discussed with regard to the center of gravity of the three-dimensional shape model.

Accordingly, claim 46 patentably distinguishes over the prior art and should be allowable for at least the above-mentioned reasons.

New claims 47-48, which depend directly from claim 46, should also be allowable for at least the same reasons as claim 46, as well as for the additional features recited therein.

New claim 49 directed to a method of displaying a three-dimensional shape model should also be allowable for at least reasons similar to that of claim 40, as once amended.

New claims 50-52, which depend directly from claim 49, should also be allowable for at least the same reasons as claim 49, as well as for the additional features recited therein.

New claim 53 directed to an apparatus for displaying a three-dimensional shape model should also be allowable for at least similar to that of claim 41, as twice amended.

New claims 54, which depend directly from claim 53, should also be allowable for at least the same reasons as claim 53, as well as for the additional features recited therein.

New claim 55, directed to method of displaying a three-dimensional shape model, should also be allowable for at least the same reasons as claim 46, as well as for the additional features recited therein.

Entry and consideration of these claims are respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that affect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 11/1/02

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please **CANCEL** claim 38, **AMEND** claims 37 and 39-41 and **ADD** new claims 46-54 as follows:

37. (TWICE AMENDED) A method of displaying a three-dimensional shape model onto a two-dimensional plane, characterized in that a translucent polyhedron containing therein a whole or a part of the three-dimensional shape model is also displayed, wherein at least a depth of a control point on the three-dimensional shape model is controlled in accordance with a position of the translucent polyhedron.

39. (ONCE AMENDED) [A] The method of displaying a three-dimensional shape model according to claim [38] 37, wherein

[the] a color of said polyhedron is determined based on [the basis of the] a background color of the two-dimensional plane and on [the] a color of the three-dimensional shape model.

40. (ONCE AMENDED) A method of displaying a three-dimensional shape model [according to claim 37] onto a two-dimensional plane, wherein

a polyhedron containing therein a whole or a part of the three-dimensional shape model is also displayed, at least a depth of a control point on the three-dimensional shape model is controlled in accordance with a position of the polyhedron and a display mode of said three-dimensional shape model is changed in accordance with a relative positional relationship between a point designated by a pointing device and the position of the polyhedron.

41. (TWICE AMENDED) An apparatus for displaying a three-dimensional shape model onto a two-dimensional plane, comprising:

means for calculating a polyhedron containing therein a whole or a part of the three-dimensional shape model;

a pointing device;

means for judging a relative positional relationship between a point designated by the pointing device and a position of said polyhedron; and

means for changing a display mode of said three-dimensional shape model in accordance with [the] a result of the [judgment] judging, wherein at least a depth of a control point on the three-dimensional shape model is controlled in accordance with the position of the

polyhedron.

46. (NEW) A method of displaying a three-dimensional shape model onto a two-dimensional plane, comprising:

displaying a polyhedron containing therein a whole or a part of the three-dimensional shape model and having a center which is a center of gravity of the three-dimensional shape model contained therein; and

controlling, in accordance with a position of the polyhedron, at least a depth of a control point on the three-dimensional shape model.

47. (NEW) The method of displaying a three-dimensional shape model according to claim 46, wherein

said polyhedron is a sphere.

48. (NEW) The method of displaying a three-dimensional shape model according to claim 46, wherein

said polyhedron is a regular polyhedron.

49. (NEW) A method of displaying a three-dimensional shape onto a two-dimensional plane, comprising:

displaying a polyhedron containing therein a whole or a part of the three-dimensional shape model;

controlling, in accordance with a position of the polyhedron, at least a depth of a control point on the three-dimensional shape model; and

changing a display mode of said three-dimensional shape model in accordance with a relative positional relationship between a point designated by a pointing device and the position of the polyhedron.

50. (NEW) The method of displaying a three-dimensional shape model according to claim 49, wherein the display mode is set to a translation transformation when the point designated by the pointing device is positioned inside the polyhedron and the display mode is set to a rotation transformation when the point designated by the pointing device is positioned outside of the polyhedron.

51. (NEW) The method of displaying a three-dimensional shape model according to claim 49, wherein

said polyhedron is a sphere.

52. (NEW) The method of displaying a three-dimensional shape model according to claim 49, wherein

said polyhedron is a regular polyhedron.

53. (NEW) An apparatus for displaying a three-dimensional shape model onto a two-dimensional plane, comprising:

a calculation unit calculating a polyhedron containing therein a whole or a part of the three-dimensional shape model;

a pointing device; and

a judging unit judging a relative positional relationship between a point designated by the pointing device and a position of the polyhedron, wherein

a display mode of said three-dimensional shape model is changed in accordance with a result of the judging unit, and at least a depth of a control point on the three-dimensional shape model is controlled in accordance with the position of the polyhedron.

54. (NEW) The apparatus for displaying a three-dimensional shape model according to claim 53, wherein the display mode is set to a translation transformation when the point designated by the pointing device is positioned inside the polyhedron and the display mode is set to a rotation transformation when the point designated by the pointing device is positioned outside of the polyhedron.

55. (NEW) A method of displaying a three-dimensional shape model onto a two-dimensional plane, characterized in that a polyhedron having a center which is the center of gravity of the three-dimensional shape model and containing therein a whole or a part of the three-dimensional shape model is also displayed, wherein at least a depth of a control point on the three-dimensional shape model is controlled in accordance with a position of the polyhedron.